

Matter Field: A Unified Framework of Energy, Information, and Interaction

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Abstract: Based on the core hypothesis that "moving matter is necessarily accompanied by a matter field," this paper proposes a theoretical framework—Matter Field Theory—aimed at unifying microscopic and macroscopic physical phenomena. The theory holds that all matter composed of basic moving units such as atoms and electrons generates a matter field inseparable from its state of motion. This field possesses two fundamental attributes: it is both an energy field that obeys energy conservation and an information field that encodes the complete kinematic state of the matter. The matter field propagates at the speed of light, and its interactions can be classified into three basic modes: strong interaction (energy exchange), manifested as attraction or repulsion; weak interaction (information exchange), manifested as resonance and perception; and non-interaction (mutual non-disturbance), which may correspond to dark matter phenomena. This paper also points out that a cosmological view based on the matter field will completely negate relativity theory and the Big Bang theory: the relativistic interpretation of spacetime relations is erroneous; the universe has no beginning or end, and the Big Bang doctrine is untenable. This paper systematically expounds the implications of the theory, demonstrates its self-consistency, and presents a worldview in the form of a poem.

Keywords: matter field; energy-information unity; spin; interaction; dark matter; macro-micro similarity; universe without beginning or end.

1. Introduction: From Moving Matter to Universal Field

Classical and modern physics have established that the basic constituents of matter (such as atoms and electrons) are not static entities but are in perpetual motion. This motion includes not only spatial displacement but, more generally, complex spin and orbital motions, exhibiting on

the microscopic scale a striking dynamical similarity to macroscopic structures such as the solar system. A logical corollary is that, just as moving charges radiate electromagnetic fields, any form of material motion must necessarily excite some physical field in the surrounding spacetime structure. In this paper, we define this universal field accompanying material motion as the "matter field."

The matter field is not a new hypothesis independent of known fields (such as electromagnetic and gravitational fields); rather, it attempts to establish a more fundamental and unified ontological and epistemological basis for all matter-field phenomena. Its core thesis is that the matter field is the two-fold aspect of material motion, simultaneously carrying the energy effects and the information encoding of that motion. This dual attribute provides a coherent theoretical perspective for understanding everything from elementary particle interactions to the formation of cosmic structures, and even information perception in life and consciousness.

Before proceeding with the systematic exposition, the author would like to summarize the worldview advocated in this paper with a short poem:

Worldview

The material world is not complex at all,
Atoms and electrons spin blossoming,
Energy and information fill the cosmic span,
Macro and micro follow the selfsame plan.

Matter fields transform in myriad ways,
Forces are either repulsive or attract, always.
Relativity misses the mark, far from the truth,
And the Big Bang is even more a laugh, forsooth.

The following sections will provide a rigorous physical interpretation of each assertion in this

poem.

2. The Dual Fundamental Attributes of the Matter Field

2.1 The Matter Field as an Energy Field

According to the law of energy conservation, energy in the universe can neither be created nor destroyed, only transformed and transferred. [1] Moving matter itself is a carrier of energy, and its accompanying matter field naturally constitutes a dynamic energy field. The strength and distribution of the field depend on dynamical parameters such as mass, velocity, and spin angular momentum.

Among these, spin motion holds a special status. The theory holds that spin is an extremely efficient and stable mode of motion. It enables matter (from elementary particles to celestial bodies) to maintain the relative stability of its own angular momentum and intrinsic energy, forming a dynamically balanced "energy packet." At the same time, the rotating field structure acts like a natural "energy antenna" or "vortex," coupling more effectively with other energy fields in the environment (such as radiation fields and gravitational fields), thus absorbing, storing, or radiating energy. Therefore, spin can be regarded as the optimal strategy for matter to maintain its own existence in the cosmic energy flow and to participate in large-scale energy cycles—this is the physical essence of the phrase "Atoms and electrons spin blossoming."

2.2 The Matter Field as an Information Field

A more revolutionary perspective is that the matter field is, in essence, an information field. All intrinsic properties of matter (such as mass, charge, elemental structure) and kinematic states (such as velocity, spin period, orbital inclination) are precisely encoded in the structure and pattern of the field it generates. The electromagnetic field encodes information about charge and magnetic moment; the gravitational field encodes information about mass and spacetime motion. By extension, each specific material composition and motion pattern corresponds to a unique

"fingerprint" or "hologram" of the matter field.

The light, heat, forces, and waves detected by human senses and scientific instruments are, in essence, perceptions and decoding of the information carried by matter fields. The progress of civilization—from naked-eye stargazing to radio telescopes, from mechanical sensing to quantum sensing—is centered on expanding our capacity and precision to receive and interpret information from matter fields. Therefore, the storage, propagation, exchange, and perception of information in matter fields constitute the basis for the cognition of physical reality, and also the physical core of intelligence and civilizational development. "Energy and information fill the cosmic span" is a straightforward expression of this dual nature.

3. The Same Laws for Macro and Micro

Traditional physics draws a difficult-to-bridge chasm between quantum mechanics and general relativity [2], rooted in the mistaken assumption that micro and macro scales follow different laws. Matter field theory, by contrast, clearly states that macro and micro follow the selfsame plan. From the orbital motion of electrons around nuclei to the revolution of planets around stars, from the spin of atomic nuclei to the rotation of celestial bodies, their dynamical structures share a profound isomorphism. Gravitation is not a geometric effect of spacetime curvature, but a real attractive force generated between co-moving material masses—just as parallel currents attract each other [3]. The generation of the geomagnetic field is precisely the result of the vortex motion of the Earth's matter field under the combined action of its rotation and revolution. This mechanism is entirely consistent with the principle by which electron spin produces a magnetic moment; here, micro and macro achieve unity.

4. Three Modes of Matter Field Interaction

Matter fields propagate and extend through spacetime at the speed of light. The encounters and

superpositions between fields give rise to a rich variety of physical phenomena. Their interactions can be summarized into three basic modes:

1. Strong Interaction: Energy Exchange Mode

When the energy densities of two matter fields are sufficiently high and their coupling strong enough, an interaction characterized by direct energy transfer occurs. This typically manifests as significant force effects, such as gravitational attraction (a converging tendency of energy) or repulsion (a confronting tendency of energy). The formation of star systems, the formation and breaking of chemical bonds, and energy conversion in particle collisions all belong to this mode. "Forces are either repulsive or attract, always" is a concise summary of this mode—all macroscopically sensible forces are ultimately attractions or repulsions between matter fields.

2. Weak Interaction: Information Exchange Mode

When the direct energy exchange between matter fields is weak, but their field structures (information encoding patterns) have specific correlations, resonance, synchronization, or induction at the information level may occur. For example, quantum entanglement may be a purely informational correlation; the response of biological cells to weak electromagnetic signals, synchronized oscillations of neural networks, and even conscious phenomena such as intuition and empathy may be based on weak information exchange between matter fields. This type of interaction does not significantly change the macroscopic energy of the systems, but it can transmit state information and guide system evolution.

3. Non-interaction: Dark Matter Field Mode

There exists a possibility that there are large numbers of matter fields in the universe whose coupling constants with known matter fields are extremely low, such that they appear as "mutual non-disturbance" at both energy and information levels. They almost do not participate in electromagnetic and strong interactions, and only manifest through extremely weak gravitational effects (or some as-yet-unknown mechanism). This provides a completely new approach to the nature of dark matter: there are no dark matter particles in the traditional sense; rather, the so-called "dark matter" phenomenon actually originates from an ocean of parallel "dark matter

fields" whose information is incompatible with ordinary matter fields and whose energy-exchange channels are extremely narrow. The universe we observe is only that part of the interwoven multiple matter fields that significantly interacts with our own field.

5. Critique of Relativity and the Big Bang Theory

5.1 Why Relativity Is Wrong

Einstein's relativity interprets gravitation as a geometric effect of curved spacetime and introduces counterintuitive conclusions such as the speed-of-light limit and time dilation [4]. However, from the perspective of the matter field, these conclusions stem from a mistaken modeling of the relation between material motion and fields.

- Spacetime is not a bendable entity: matter fields exist in spacetime, but spacetime itself has no dynamical properties independent of matter fields. The so-called "gravitational time dilation" is actually a change in the internal motion rhythm of matter caused by differences in matter-field energy density, not a stretching or contraction of time itself.
- The speed of light is not an upper limit but a propagation constant: matter fields propagate at the speed of light, which merely indicates that the signal speed of the field is c under normal conditions, but there exists no absolute law in the universe that forbids superluminal motion of matter. The instantaneous information correlation in quantum entanglement is a manifestation of information exchange that transcends the speed of light.

Therefore, "Relativity misses the mark, far from the truth" is not rhetorical exaggeration, but a serious judgment based on matter field theory. Relativity elevates mathematical formalism above physical entities, replacing the real interactions between matter fields with the geometric metaphor of curved spacetime.

5.2 Why the Big Bang Is a Laugh

The Big Bang theory holds that the universe originated from a singularity of infinite density about 13.8 billion years ago and has since expanded and continued to the present [5]. This model faces numerous self-inconsistencies: the singularity itself is where physical laws break down; the inflationary mechanism requires additional assumptions; the uniformity of the cosmic microwave background requires finely tuned initial conditions; and the existence of dark matter and dark energy looks more like patches added to compensate for the model's defects.

Matter field theory offers a completely different cosmic picture: the universe has no beginning or end; there was no Big Bang. Matter and its accompanying matter fields are eternally existing and eternally moving. Energy and information are continuously exchanged, transformed, and cycled among matter fields, but the total amount is conserved. On a macroscopic scale, the universe may have local expansions and contractions (such as galaxies receding from or approaching each other), but there is no single initial moment for the whole universe. The galactic redshifts we observe can be fully explained by the rule that co-moving masses attract and counter-moving masses repel, without resorting to a hypothetical beginning of expansion.

"The Big Bang is even more a laugh" is meant as a warning: taking a mathematical singularity as the true history of the universe is a typical case of mistaking mathematical tools for physical reality. The universe is boundless, without beginning or end, and the evolution of matter fields is inexhaustible.

6. Discussion and Significance: Toward a Unified Picture

Matter field theory represents an attempt to incorporate entities, energy, information, and interactions into a single framework. Its core propositions can be summarized as follows:

- Unification of micro and macro: From electron spin to galactic rotation, they obey similar laws of motion and field generation. "Atoms and electrons in spinning blooms enthrall" and "macro and micro follow the selfsame plan" are poetic expressions of this unity.

- Integration of physics and information: Elevating information to a physical quantity as fundamental as energy provides a conceptual bridge for the deep integration of physics and information science.
- Interpreting the dark matter puzzle: Reinterpreting dark matter phenomena as the existence of "non-interacting" matter fields, without introducing new particles.
- Thorough revision of relativity and the Big Bang: The gravitational pull of the matter field comes from the attraction of co-moving motions, not from spacetime curvature; the universe has no origin, and the Big Bang model should be abandoned.

7. Conclusions

The matter field theory proposed in this paper holds that the universe is woven together by ever-moving matter and the matter fields it generates. The matter field is a unified carrier of energy and information, propagates at the speed of light, and interacts through three basic modes: energy exchange, information exchange, or non-interaction. Micro and macro follow exactly the same dynamical laws; gravitation originates from the attraction of co-moving material motions, and geomagnetism arises from the superposition of spin and revolution; the relativistic interpretation of curved spacetime is erroneous, and the Big Bang doctrine is an untenable hypothesis. The universe is without beginning or end, and the evolution of matter fields continues eternally.

Future research should be devoted to mathematizing this philosophical framework, finding an exact mathematical description of the matter field, and designing experiments to test its key predictions concerning weak information exchange and the properties of dark matter fields.